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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/769,023      | 01/30/2004  | Paul R. Buda         | SQRD.002C1          | 7973             |

23569 7590 02/16/2007  
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| EXAMINER |
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MCDONALD, RODNEY GLENN

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

1753

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 02/16/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/769,023

Applicant(s)

BUDA, PAUL R.

Examiner

Rodney G. McDonald

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8-2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Abry et al. (U.S. Pat. 5,993,615).

Regarding claim 1, Abry teach a plasma generation apparatus having a power supply circuit 22 having a cathode enclosed in a chamber 30 and adapted to generate a power related parameter (i.e. voltage) and an arc detection arrangement 26 communicatively coupled to the power supply circuit 22 and adapted to assess the severity of arcing (i.e. total number of arcs, arc intensity, continued arcing, etc.) in the chamber by comparing the power-related parameter (i.e. voltage) to at least one threshold (i.e. a threshold voltage). (Column 3 lines 13-36; Column 3 lines 49-67; Column 4 lines 1-34)

Regarding claim 2, Abry teach measuring the arc duration (i.e. the continuing arcing) responsive to comparing the power related parameter to the at least one threshold. (Column 3 lines 49-67)

Regarding claim 3, Abry teach measuring the cumulative arcing duration (i.e. counting the number of arcs) responsive to comparing the power related power (i.e. voltage) to at least one threshold (i.e. threshold voltage). (Column 3 lines 49-67)

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Regarding claim 4, Abry teach measuring the arcing intensity responsive to comparing the power-related parameter to at least one threshold. (Column 3 lines 49-67)

Regarding claim 5, Abry teach measuring arcing duration responsive to comparing the power related parameter to at least one threshold. (Column 3 lines 49-67)

Regarding claim 6, Abry teach measuring arc energy responsive to comparing the power-related parameter to at least one threshold. (Column 3 lines 49-67; Column 4 lines 42-53)

Regarding claim 7, Abry teach measuring the cumulative arcing duration (i.e. counting the number of arcs) responsive to comparing the power related power (i.e. voltage) to at least one threshold (i.e. threshold voltage). (Column 3 lines 49-67)

Regarding claim 8, Abry teach assessing the severity of arcing as a function of the arcing intensity and arcing duration. (Column 3 lines 49-62)

Regarding claim 9, Abry teach assessing the severity of arcing as a function of the arcing intensity and arcing duration. (Column 3 lines 49-62)

Regarding claim 10, Abry teach at least one threshold is programmable via a logic arrangement coupled to the arc detection arrangement. (Column 3 lines 17-18)

Regarding claim 11, Abry teach at least one threshold programmable to a non-arcing value of the power related parameter. (Column 3 lines 35-48)

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Regarding claim 12, Abry teach that the arc arrangement is adapted to digitize the power related parameter before comparing to the at least one threshold. (Column 4 lines 6-17)

Regarding claim 13, Abry teach a Logic arrangement 28 fro processing the digital information. (Column 3 lines 17-18)

Regarding claim 14, the logic arrangement is a programmable logic controller. (Column 3 lines 17-18)

Regarding claim 15, Abry teach an apparatus for assessing arcing severity in a plasma generation chamber. Abry teach a plasma generation apparatus having a power supply circuit 22 having a cathode enclosed in a chamber 30 and adapted to generate a power related parameter (i.e. voltage) and an arc detection arrangement 26 communicatively coupled to the power supply circuit 22 and adapted to assess the severity of arcing (i.e. total number of arcs, arc intensity, continued arcing, etc.) in the chamber by comparing the power-related parameter (i.e. voltage) to at least one threshold (i.e. a threshold voltage). (Column 3 lines 13-36; Column 3 lines 49-67; Column 4 lines 1-34) Abry teach measuring the arcing intensity responsive to comparing the power-related parameter to at least one threshold. (Column 3 lines 49-67) Abry teach measuring the cumulative arcing duration (i.e. counting the number of arcs) responsive to comparing the power related power (i.e. voltage) to at least one threshold (i.e. threshold voltage). (Column 3 lines 49-67) Abry teach utilizing a programmable logic circuit for computing the arc energy and adding the arc energy to

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get an accumulated arc energy and stopping coating when an amount of arc energy is accumulated. (Column 4 lines 17-23; Column 4 lines 42-53)

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,736,944.

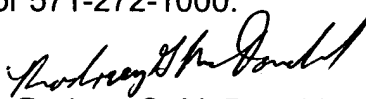
Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-7 of U.S. Pat. No. 6,736,944 teach the required plasma generation apparatus with a power supply circuit generating a power related parameter and arc detection arrangement coupled to the power supply circuit and adapted to assess the severity of arcing by comparing the power related parameter to at least one threshold.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Rodney G. McDonald  
Primary Examiner  
Art Unit 1753

RM  
November 15, 2006